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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/033,854	12/19/2001	Mahesh Sambasivam	42390P13267	9103

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EXAMINER

NGUYEN, KHIEM D

ART UNIT PAPER NUMBER

2823

DATE MAILED: 02/27/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

**Advisory Action**

Application No.

10/033,854

Applicant(s)

SAMBASIVAM ET AL.

Examiner

Khiem D Nguyen

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--The MAILING DATE of this communication appears on the cover sheet with the corresponding address --

THE REPLY FILED 07 February 2003 FAILS TO PLACE THIS APPLICATION IN CONDITION FOR ALLOWANCE. Therefore, further action by the applicant is required to avoid abandonment of this application. A proper reply to a final rejection under 37 CFR 1.113 may only be either: (1) a timely filed amendment which places the application in condition for allowance; (2) a timely filed Notice of Appeal (with appeal fee); or (3) a timely filed Request for Continued Examination (RCE) in compliance with 37 CFR 1.114.

**PERIOD FOR REPLY** [check either a) or b)]

- a) ☒ The period for reply expires 3 months from the mailing date of the final rejection.
- b) ☐ The period for reply expires on: (1) the mailing date of this Advisory Action, or (2) the date set forth in the final rejection, whichever is later. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of the final rejection.
- ONLY CHECK THIS BOX WHEN THE FIRST REPLY WAS FILED WITHIN TWO MONTHS OF THE FINAL REJECTION. See MPEP 706.07(f).

Extensions of time may be obtained under 37 CFR 1.136(a). The date on which the petition under 37 CFR 1.136(a) and the appropriate extension fee have been filed is the date for purposes of determining the period of extension and the corresponding amount of the fee. The appropriate extension fee under 37 CFR 1.17(a) is calculated from: (1) the expiration date of the shortened statutory period for reply originally set in the final Office action; or (2) as set forth in (b) above, if checked. Any reply received by the Office later than three months after the mailing date of the final rejection, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

1. ☐ A Notice of Appeal was filed on \_\_\_\_\_. Appellant's Brief must be filed within the period set forth in 37 CFR 1.192(a), or any extension thereof (37 CFR 1.191(d)), to avoid dismissal of the appeal.
2. ☐ The proposed amendment(s) will not be entered because:
- (a) ☐ they raise new issues that would require further consideration and/or search (see NOTE below);
- (b) ☐ they raise the issue of new matter (see Note below);
- (c) ☐ they are not deemed to place the application in better form for appeal by materially reducing or simplifying the issues for appeal; and/or
- (d) ☐ they present additional claims without canceling a corresponding number of finally rejected claims.

NOTE: \_\_\_\_\_

3. ☐ Applicant's reply has overcome the following rejection(s): \_\_\_\_\_.
4. ☐ Newly proposed or amended claim(s) \_\_\_\_\_ would be allowable if submitted in a separate, timely filed amendment canceling the non-allowable claim(s).
5. ☒ The a) ☐ affidavit, b) ☐ exhibit, or c) ☒ request for reconsideration has been considered but does NOT place the application in condition for allowance because: see office action.
6. ☐ The affidavit or exhibit will NOT be considered because it is not directed SOLELY to issues which were newly raised by the Examiner in the final rejection.
7. ☒ For purposes of Appeal, the proposed amendment(s) a) ☐ will not be entered or b) ☒ will be entered and an explanation of how the new or amended claims would be rejected is provided below or appended.

The status of the claim(s) is (or will be) as follows:

Claim(s) allowed: \_\_\_\_\_

Claim(s) objected to: \_\_\_\_\_

Claim(s) rejected: 1-20

Claim(s) withdrawn from consideration: \_\_\_\_\_

8. ☒ The proposed drawing correction filed on 19 December 2001 is a) ☒ approved or b) ☐ disapproved by the Examiner.
9. ☐ Note the attached Information Disclosure Statement(s) (PTO-1449) Paper No(s). \_\_\_\_\_
10. ☒ Other: see office action

## **DETAILED ACTION**

### ***Response to Amendment after final or Advisory Action***

Applicant's arguments filed 2-07-2003 have been fully considered but they are not persuasive.

### ***Status of the pending claims after final rejection***

The finally rejected claims are 1-20.

### ***Status of the Pending Rejections or Objections***

Claims 1-20 remain rejected under 35 U.S.C. 103(a) as being unpatentable over Applicant's Admitted Prior Art (AAPA) in combination with Hundt et al (U.S. Patent No. 5,590,462) and Cha et al (U.S. Patent No. 6,242,798).

### ***Response to Arguments***

In response to applicant's argument that the Hundt patent teaches dispensing a thermally conductive adhesive not an underfill material, the applicant further stated that the terms "adhesive" and "underfill material" have very distinct definitions such that an adhesive material is used to attach one component to another whereas an underfill material is used with flip-chip arrangements, after the microelectronic die is attached to the substrate with the conductive bumps, Hundt discloses a thermally conductive adhesive 24 is injected into the region 16 through the through hole 18 wherein the adhesive is a good thermal conductor, and helps carry away heat generated by the chip within the package 20, the adhesive also serves the secondary purpose of improving the physical bond between the chip and the printed circuit board 10 (col. 2, lines 40-53 and FIG. 2). Thus, the adhesive material as taught by Hundt is an underfill material since it is

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being filled under the chip and furthermore its primary purpose is to help carry away heat that generated by the chip within the package and not only used to attach one component to another as stated by the applicant.

In response to applicant's argument that the Cha patent involves a different field of endeavor, as it is merely encapsulating a wire bonded chip with an encapsulation material, the Cha patent only being used as a secondary to teach positioning the microelectronic die and the substrate such that the microelectronic die is gravitationally below the substrate prior to disposing the underfill material (col. 4, lines 5-20 and FIG. 5B).

#### *Conclusion*

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Khiem D Nguyen whose telephone number is (703) 306-0210. The examiner can normally be reached on Monday-Friday (8:00 AM - 5:00 PM).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Chaudhuri Olik can be reached on (703) 306-2794. The fax phone numbers for the organization where this application or proceeding is assigned are (703) 746-9179 for regular communications and (703) 746-9179 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 308-0956.


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K.N.

February 15, 2003

  
George Pourson  
Primary Examiner  
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